

To: Robin, George[Robin.George@epa.gov]
From: Kraemer, Stephen
Sent: Fri 6/26/2015 3:54:43 PM
Subject: ORD research on aquifer exemptions
[California AE workflow.docx](#)
[CA well logs now available upon request.pdf](#)

Hi George,

Just wanted to let you know I have submitted a pre-proposal to the ORD Safe and Sustainable Water Research program to investigate the aquifer exemption issue:

“Computer modeling tool development and demonstration to assist EPA Regions in the evaluation of injections of brines (UIC Class II) and aquifer exemptions. The research will explore the appropriate level of model complexity and solution type, ranging from semi-analytical to numerical. The conceptual geologic space will include multiple permeable layers separated by leaky layers, injections and pumping wells, presence of permeable fracture/faults and permeable abandoned wells. The transient advective flow field will also include particle tracking to evaluate the potential communication between the injection wells and the pumping wells. A case study with supporting data will be pursued in consultation with EPA Regions and EPA OGWDW. The injection of fresh water to contain coastal salt water intrusion may be a useful analog for model testing. Note that the technology may also be used for area of potential impact assessment for injections of CO₂ (UIC Class VI) and deep carbon geologic sequestration.”

I have spoken to David Albright and Matt Small about the research using the California datasets. They were not especially optimistic, but today I learned CA well logs are going public.

Appreciate your feedback.

Steve

Stephen R. Kraemer, Ph.D, Research Hydrologist
US EPA National Exposure Research Laboratory

Ecosystems Research Division

960 College Station Road

Athens, GA 30605-2700

voice (706) 355-8340

fax (706) 355-8007

kraemer.stephen@epa.gov